

SUMMARY

The Nuclear Material Stabilization mission consists of the Plutonium Finishing Plant (PFP), WBS 1.4.5, PBS TP05.

As of November 30, 1999 a total of 99 cans of oxides and sludges have been stabilized through thermal stabilization. By month's end, a total of 10 liters of solution have been stabilized in the prototype vertical denitration calciner. Responses were submitted to the DNFSB on November 30, 1999 by DOE-HQ on the draft revision of the Recommendation 94-1 stabilization plan and schedule. The initial alpha scans on the two core samples from Tank 241-Z-361 were completed by the 222-S Laboratory and the preliminary report on the results was issued.

Fiscal-year-to-date milestone performance (EA, DOE-HQ, FO, and RL) shows that one milestone (100 percent) was completed on or ahead of schedule, no milestones were completed late, and none are overdue. One milestone (TRP-00-500) is forecast to be late due to a proposed change in process implementation. A letter has been sent to RL indicating the milestone will not be met. Further details can be found in the milestone exception report beginning on page D: 1-8.

ACCOMPLISHMENTS

- Thermal Stabilization Restart - A Technical Review Board recommended that the Supercritical Fluid Extraction (SFE) process be approved as an alternative method of measuring moisture in all plutonium oxides as part of the stabilization verification process required by DOE STD-3013-99 standard. A total of 99 cans of oxides/sludges have been stabilized.
- Solution Stabilization - A notice to proceed was authorized to Diversified Metal Products, Inc. (DMP) on November 5, 1999 for the precipitation gloveboxes and related process equipment. The scheduled delivery date for this equipment is March 21, 2000. Procurement of the glove port rings will be performed by FDNW and delivered to DMP in January 2000. The prototype vertical calciner continues to operate successfully in PFP's Plutonium Process Support Laboratories (PPSL). A total of 10 liters of solution have been stabilized.
- Polycube stabilization - The scope of work for PNNL testing has proceeded through the review and approval cycle process. PNNL testing is now in progress.
- Tank 241-Z-361 Core Sampling – Two core samples were delivered to the 222-S Analytical Laboratory for analysis September 31, 1999, one month ahead of schedule (Milestone TRP-00-501). The 222-S Analytical Laboratory has completed the initial alpha scans on the samples from Tank 241-Z-361, and has issued the report on the results. There were no quality problems noted during the validation, so the data should be fully useable.
- Project W-460 - HazOp meetings for the Safety Analysis (SA) and Criticality Safety Evaluation Report have been completed and documents are under review. Long-lead procurement for the Bagless Transfer System (BTS) glove box has been initiated.

COST PERFORMANCE (\$M):

	BCWP	ACWP	VARIANCE
Nuclear Material Stabilization	\$17.4	\$13.0	+ \$4.4

The \$4.4million (25 percent) favorable cost variance is due to a shortage of staff and lag in costs for contracts (i.e., including the Energy Services contract for steam), slow start in FDNW definitive design support for Project W-460 and delay in contract release for the BTS glove box procurement.

SCHEDULE PERFORMANCE (\$M):

	BCWP	BCWS	VARIANCE
Facility Stabilization	\$17.4	\$20.6	- \$3.2

The \$3.2 million (16 percent) unfavorable schedule variance is primarily due to the behind status in special projects (sanitary water system upgrade, Criticality Alarm Panel upgrade and radiation monitoring constant air monitor upgrade); the behind status on stabilization of SS&C, ash and compounds; Mg(OH)₂ Precipitation, stabilization project management, and definitive design delay on Project W-460.

ISSUES

Planned \$6.9M reduction to FY 2000 funding will limit the project's ability to accelerate DNSFB Recommendation 94-1 activities (cementation, polycube stabilization, new muffle furnaces). The reduction may impact Project W-460 if outer can welder reduced cost is not possible.

Strategy/Status: Local reprogramming of Project W-460 Line Item funds may be required.

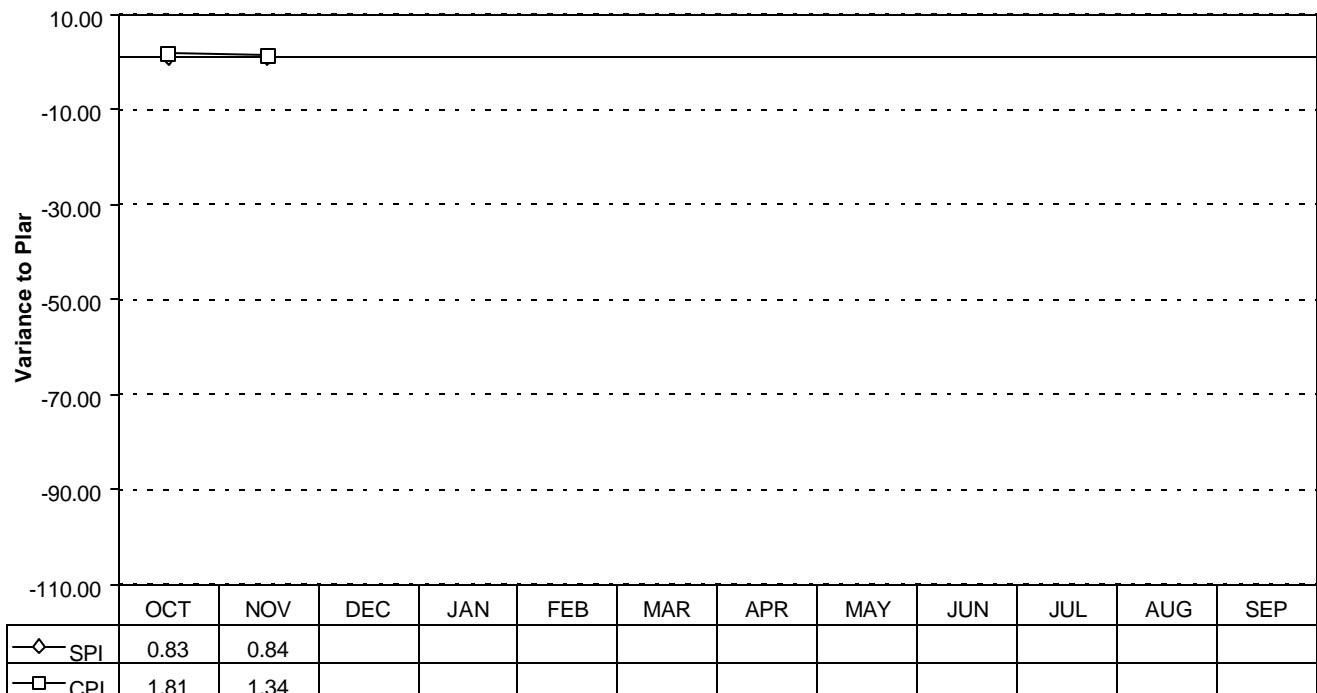
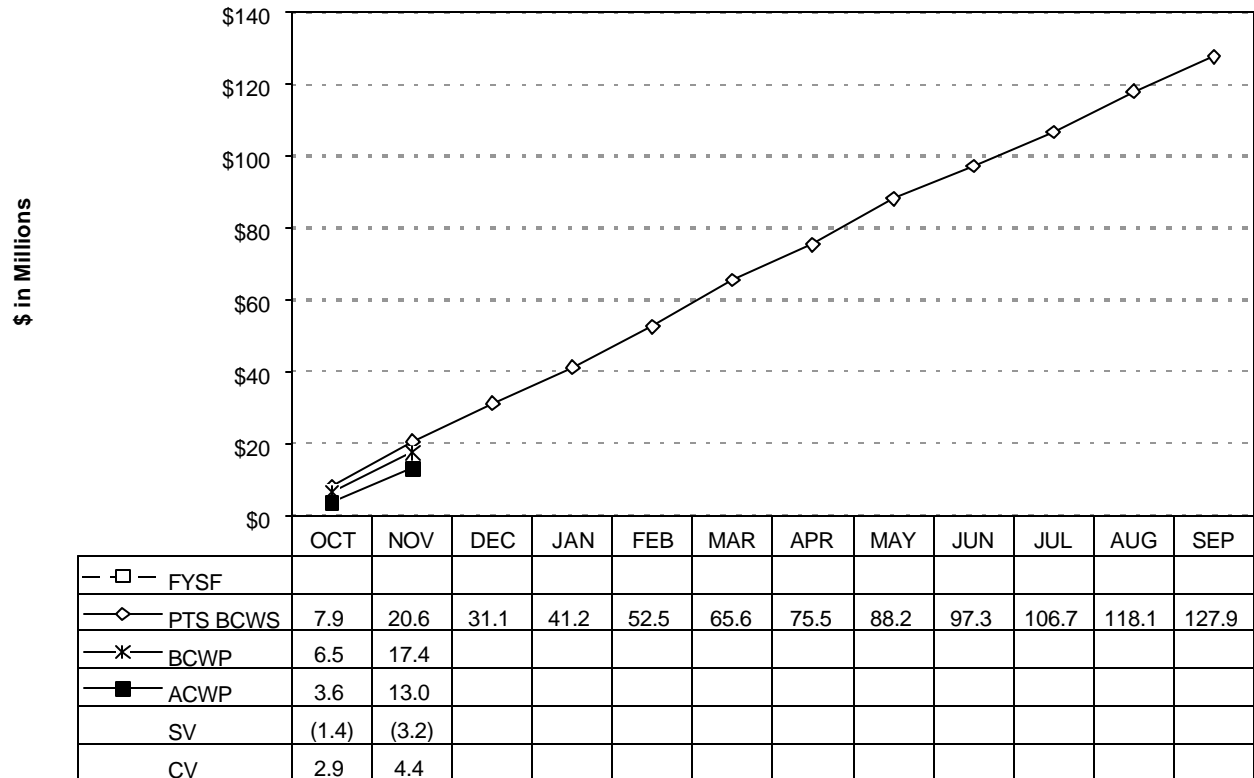
Loss of electrical transformer capacity (two of four transformers supplying power to the PFP failed in November 1999). The remaining two transformers show the same signs of degradation as the failed units.

Strategy/Status: The replacement/rebuilding of all four transformers is recommended to restore original electrical power capacity. The estimated cost is \$2M, which, if required, could impact FY 2000 work scope.

NUCLEAR MATERIALS STABILIZATION PROJECT WBS 1.4.5

FY 1999 COST/SCHEDULE PERFORMANCE - ALL FUND TYPES

Cumulative to Date Status



NUCLEAR MATERIALS STABILIZATION PROJECT

WBS 1.4.5

			FYTD					AUTH	PTS
			BCWS	BCWP	ACWP	SV	CV	BSLN	BCWS
PBS									
TP05	Expense		17.9	15.6	12.3	(2.4)	3.2	107.9	110.4
	CENRTC		0.0	0.0	0.0	0.0	(0.0)	0.0	0.0
	GPP/LI		2.7	1.9	0.7	(0.9)	1.2	17.5	17.5
Total			20.6	17.4	13.0	(3.2)	4.4	125.4	127.9

\$ in Millions

COST VARIANCE ANALYSIS: (+\$4.4M)

WBS/PBS

Title

1.4.5/TP05

PFP Deactivation (Nuclear Materials Stabilization Project)

Description and Cause: The favorable cost variance is due primarily to an underrun in contracts due to late release and shortage of needed staff in FY2000 resulting from suspended hiring in FY1999 due to budget constraints.

Impact: No impact. The favorable cost variance will self correct once contract accruals align with costs and staff hiring is completed.

Corrective Action: Numerous contracts have been issued to correct for staff shortage. Also, staff hiring has been expedited.

SCHEDULE VARIANCE ANALYSIS: (-\$3.2)

WBS/PBS

Title

1.4.5/TP05

PFP Deactivation (Nuclear Materials Stabilization Project)

Description and Cause: The unfavorable schedule variance is due primarily to the behind schedule status on special projects (Cost Air Monitor upgrade, Criticality Panel upgrades, etc.), alloy stabilization, Sand, Slag & Crucible (SS&C) /ash shipments and Project W-460 capital line item definitive design. Schedule recovery on all activities in work except SS&C/ash shipments - alternate path forward in progress.

Impact: The scheduled shipment of Sand, Slag & Crucible (SS&C) materials in FY 2000 from PFP will not occur impacting the disposition of this material; an alternative path is needed. There is no impact from the behind schedule status on either the Special Project or Project W-460 definitive design activities (i.e., will self correct).

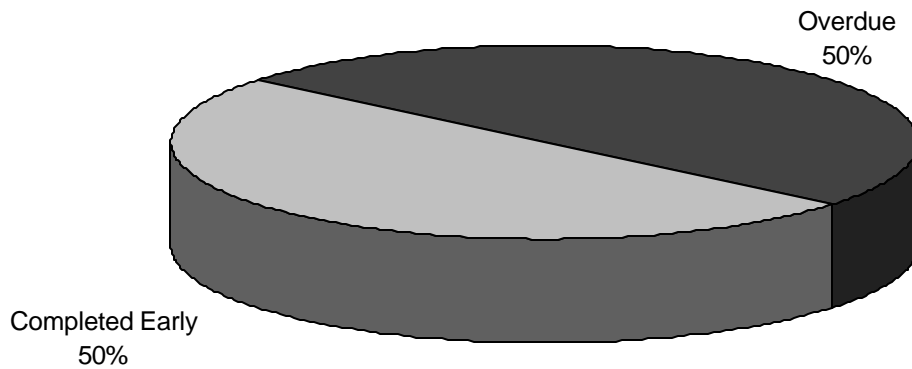
Corrective Action: An alternative path has been developed for the stabilization of SS&C material. Specifically, SS&C material will be stabilized at PFP. Funds originally allocated for the shipment of this material to the Savannah River Site will be redirected to cementation startup activities instead.

NUCLEAR MATERIAL STABILIZATION – WBS 1.4.5

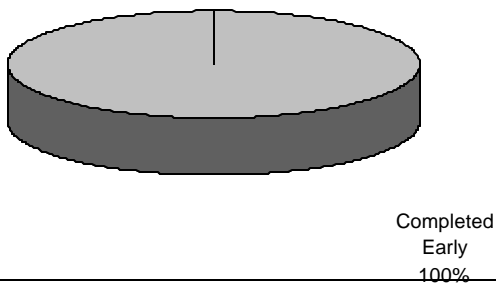
MILESTONE ACHIEVEMENT

MILESTONE TYPE	FISCAL YEAR-TO-DATE				REMAINING SCHEDULED			TOTAL FY 2000
	Completed Early	Completed On Schedule	Completed Late	Overdue	Forecast Early	Forecast On Schedule	Forecast Late	
Enforceable Agreement	1	0	0	0	0	1	0	2
DOE-HQ	0	0	0	0	0	1	0	1
EO	0	0	0	0	0	0	0	0
RL	0	0	0	1	0	10	0	11
Total Project	1	0	0	1	0	12	0	14

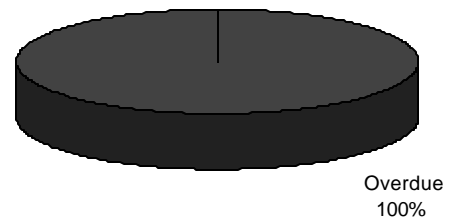
Total Project



Enforceable Agreement



RL



MILESTONE EXCEPTION REPORT

<u>Number/WBS</u>	<u>Level</u>	<u>Milestone Title</u>	<u>Baseline Date</u>	<u>Forecast Date</u>
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OVERDUE – 1

TRP-00-106	RL	Submit Hanford Materials	11/15/99	Completed
1.4.6.1		Management Plan to DOE-RL		11/11/99

Cause: TRP-00-106 was completed on November 11, 1999, 4 days ahead of schedule; however, the Central Milestone Module (CMM) was not updated with the current information.

Impact: Milestone is shown as overdue; however, it was completed ahead of schedule.

Corrective Action: CMM will be updated with the current information.

FY 1999 OVERDUE – 3

TRP-99-800	FO	End Point Method Improvement	06/25/99	06/30/00
1.4.5				

Cause: Resources necessary to complete this milestone were diverted to other priority work, specifically the development of the PFP re-baseline (Tiger Team) and offsite DOE-HQ work.

Impact: This milestone is independent of the PMBS critical path and does not impact any schedule. It represents an enhancement in the project's ability to plan deactivation work, but is not essential.

Corrective Action: This work scope has been deferred to FY 2000.

TRP-99-419	FO	Complete Installation of Production	09/30/99	Proposed
1.4.5		Scale Vertical Calciner		Deletion

Cause: The production scale vertical calciner has been replaced with the Magnesium Hydroxide Precipitation process.

Impact: No impact. This milestone is obsolete.

Corrective Action: Since installation and testing of the production scale vertical calciner is an EM-65 Management Commitment, the Department of Energy, Richland Office (DOE-RL) change control process cannot remove this milestone.

TRP-99-500	HQ	Complete Installation & Testing of	09/30/99	Proposed
1.4.5		Production Vertical Calciner		Deletion

Cause: The production scale vertical calciner has been replaced with the Magnesium Hydroxide Precipitation process.

Impact: No impact. This milestone is obsolete.

Corrective Action: Since installation and testing of the production scale vertical calciner is an EM-65 Management Commitment, the Department of Energy, Richland Office change control process cannot remove this milestone.